THE COUNTY OF SAN LUIS OBISPO CALIFORNIA

A bit about me – Guy Savage

- Married, kids in high school, live in Santa Barbara County – for now
- Avid triathlete, adventure racer
- CSU Fresno – BS, Mathematics USC – MS, Systems Management
- 25+ Years of industry experience
  - McDonnell Douglas, EDS, QAD, software companies, County (last 8 years)
- 20+ years management experience
  - Public, private, non-profit

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County Mission

- A Safe Community
- A Livable Community
- A Healthy Community
- A Prosperous Community
- A Well Governed Community

County Facts & Figures

- County Population – 269,637
- Covers 3,316 square miles, over 100 miles of coastline
- 71% White (non-Hispanic), 21% Latino, 2% mixed race, 6% other
- Agriculture, tourism, state institutions, nuclear power plant, and recreational activities drive the economy

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Census Sidebar
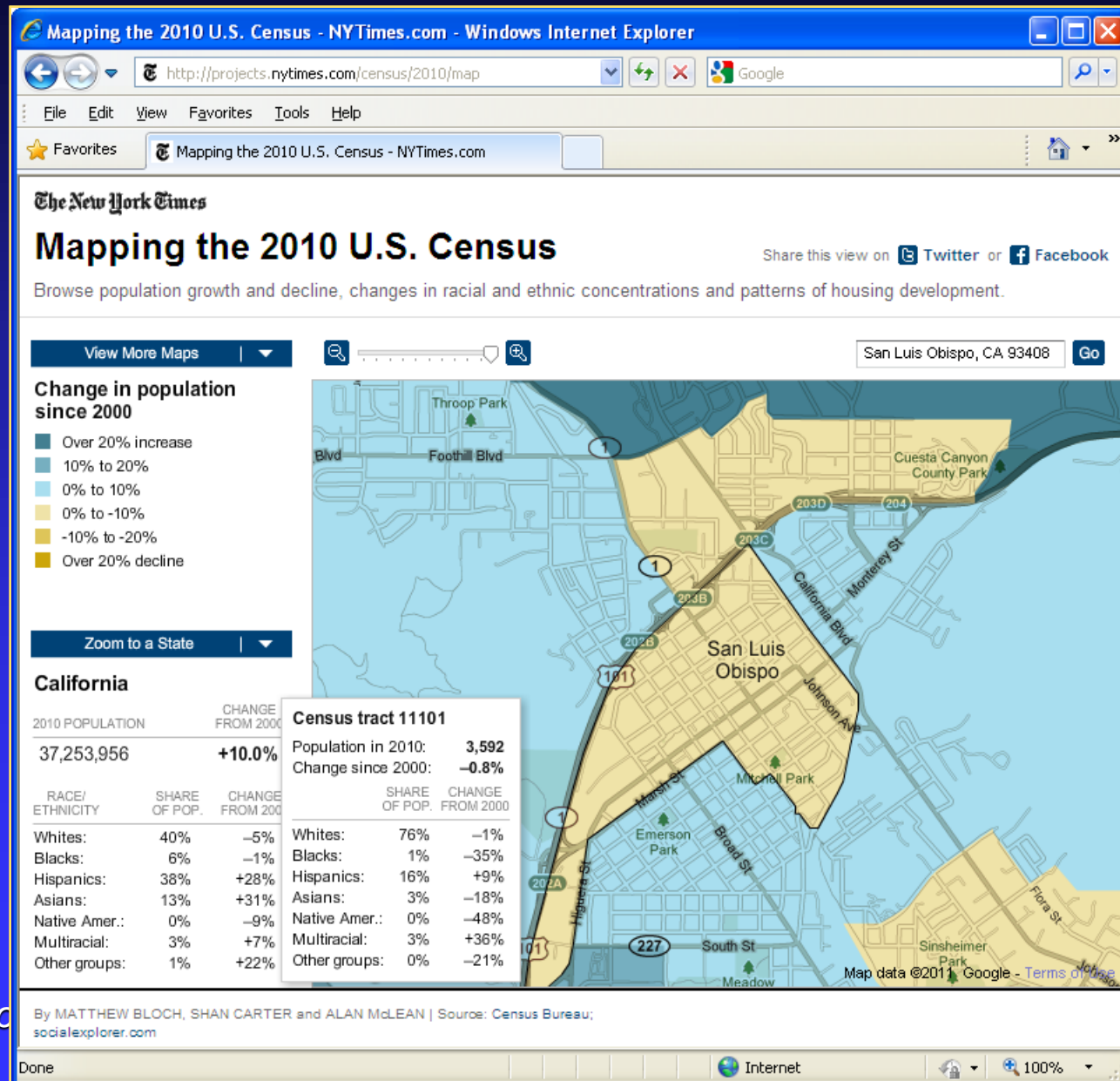
More County Stuff – Fiscal Year 2010-2011

- County employees: 2400 (down 8%)
- County budget: $450M (down 3%)
- IT Budget: $13.3M (down 5%)
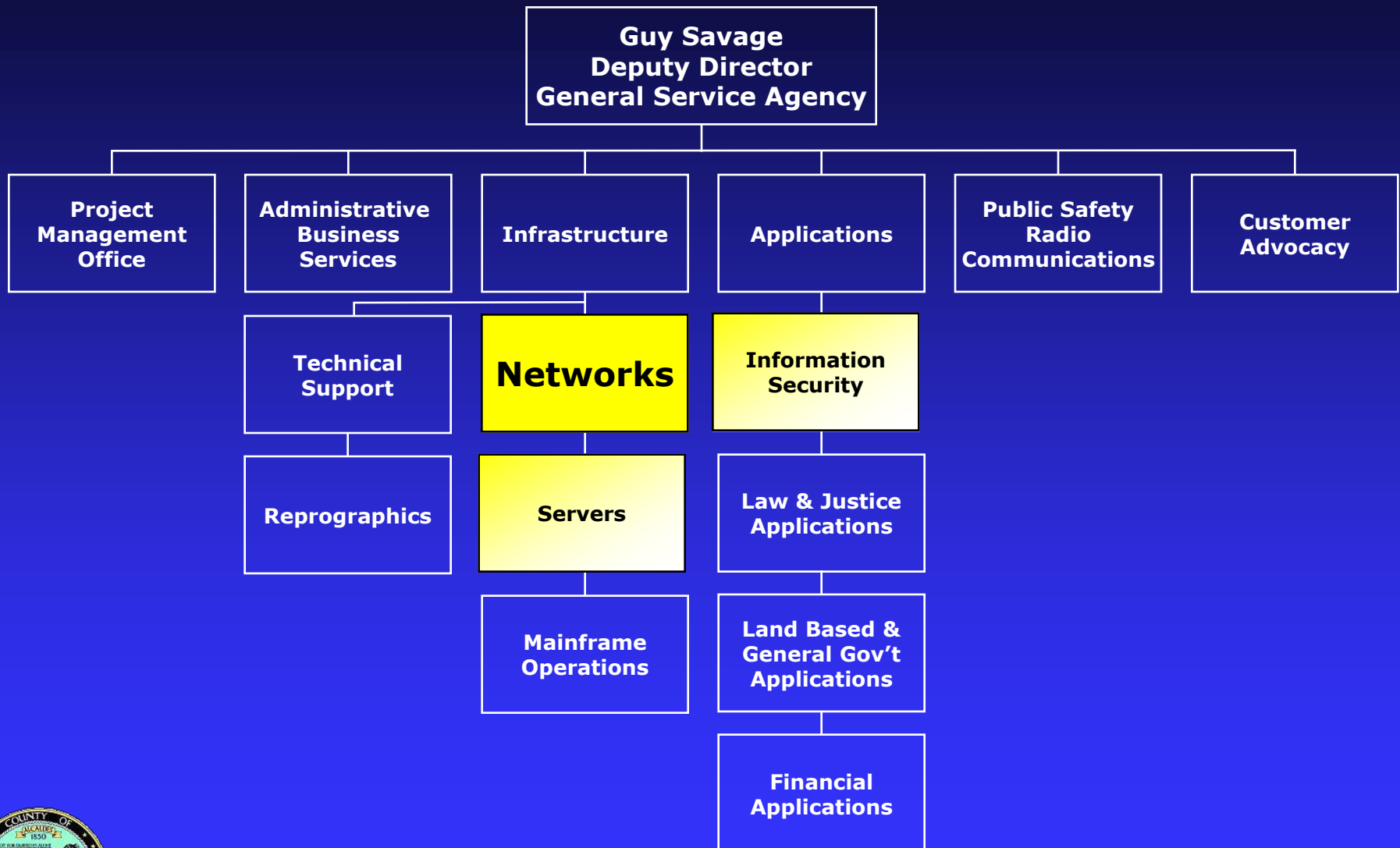

San Luis Obispo County Map By Bruce Woodworth ©

Information Technology

- General Services Agency
  - Parks, Airports, General Services, Finance, and IT
- County IT Employees: 72 centralized, 30 decentralized
- GSA-IT Budget: $13M + $1M capital fund
- GSA-IT Mission - To provide cost effective, accurate, reliable, and timely information technology solutions that deliver excellence to our customers and support efficient delivery of services to the community.

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Functional Organizational Chart

Guy Savage
Deputy Director
General Service Agency

- **Project Management Office**
- **Administrative Business Services**
  - **Technical Support**
    - **Reprographics**
- **Infrastructure**
  - **Networks**
    - **Servers**
      - **Mainframe Operations**
- **Applications**
  - **Information Security**
    - **Law & Justice Applications**
      - **Land Based & General Gov't Applications**
        - **Financial Applications**
- **Public Safety Radio Communications**
- **Customer Advocacy**

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Technology Quick Overview

- Enterprise applications
  - SAP HR & Financials
  - Lotus Domino/Notes eMail
  - LiveLink document management
  - Granicus
- SmartPhones (Good) and BlackBerry
- Video Surveillance

- Mainframe and Microsoft mix
- Avaya (Nortel) network
- Centrex Telephones
- Mainframe (custom apps)
  - Property Tax
  - Law & Justice
  - Budget
- Planning and Building
- Public Safety Microwave
- No more passports!

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WarDriving

Is it secure?

Is it safe?

Social Engineering

WISP

WPA

802.11g

Modems

802.11p

Enough Already
Let's Talk Wireless

Firewalls

WEP

802.11b

Can I do it
on my own?

WiMAX

SSID

WiFi

Access Points

Routers

Who is MAC?

Free Internet

FTTH

Auto-Connect

Review - Why get on the Internet?

- News
- Information
- Communication
- Recent / Occurring Events
- Social Networking
- Entertainment
- Download Music, Movies, and More
- Banking
- Education
- Fun

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Review - Getting on the Internet

- **DSL - Digital Subscriber Line**
  - A family of technologies that provides data transmission over the <u>wires</u> of a local telephone network.
- **Cable**
  - Provides data communication via radio frequency channels on a <u>cable</u> television (CATV) infrastructure.
- **Satellite**
  - Use geostationary or low earth orbit satellites to provide <u>wireless</u> data communication almost worldwide, including vessels at sea and mobile land vehicles. Dish access is a Satellite technology.
- **WISPs**
  - Wireless Internet Service Providers use a <u>wireless</u> connection to provide data transmission, requires line-of-sight. Often referred to as point-to-point wireless. WiMAX - Worldwide Interoperability for Microwave Access is one of the technologies used by WISPs.
- **FTTH**
  - Fiber To The Home provides data transmission using fiber optic cables.

More Review - Last one, I promise

- What is the difference between Broadband Internet and High-Speed Internet?

  None – Both refer to connections at 256kbps or higher

- But, Guy, which connectivity should I use?

  Generally speaking…

Slower ————————————→ Faster

Modem   Satellite   DSL   Cable   Fiber

Stay within your budget and use the fastest one you can get in your area

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Inside The Home

- Modem

- Wireless Access Point (WAP) and/or Router

- Devices

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Modems, WAPs, Routers

- Sometimes separate, sometimes (more and more) all-in-one

Front/Side View

Back

Connecting Devices - Wired

- Network Interface Card (NIC) aka Ethernet Card
  - Usually installed "internally"

- Requires an Ethernet Cable (CAT 5 / CAT 5E / CAT 6)
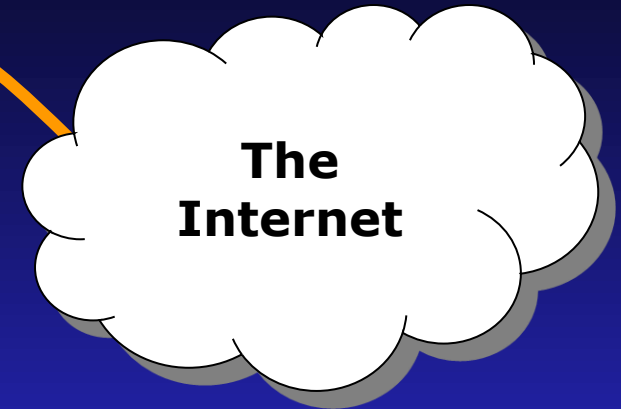
Inside The Home - Wired

- Modem

- WAP – Wireless Access Point

- Devices

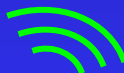**The Internet**

Providing Excellence to Every Customer
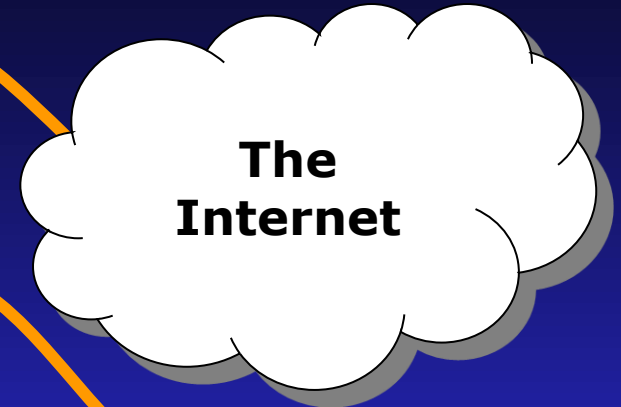
Inside The Home - Wireless

- Modem

- WAP – Wireless Access Point

The Internet

- Devices

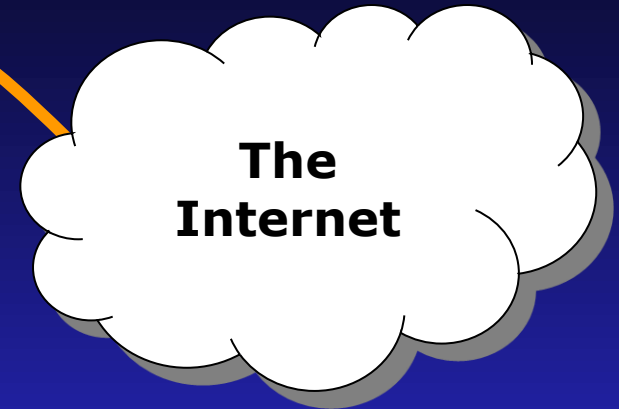# Inside The Home - Wireless

- Modem / WAP Combo

The Internet
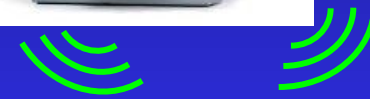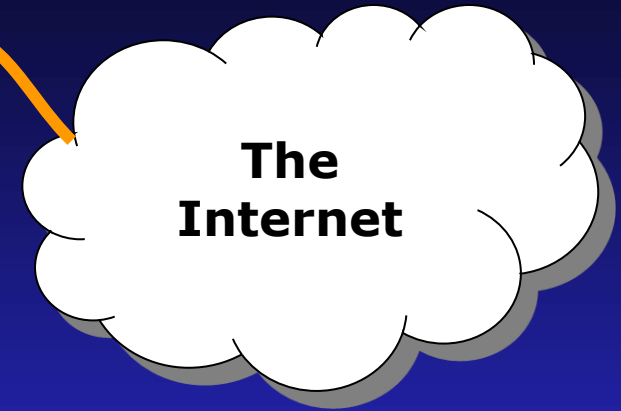
- Devices

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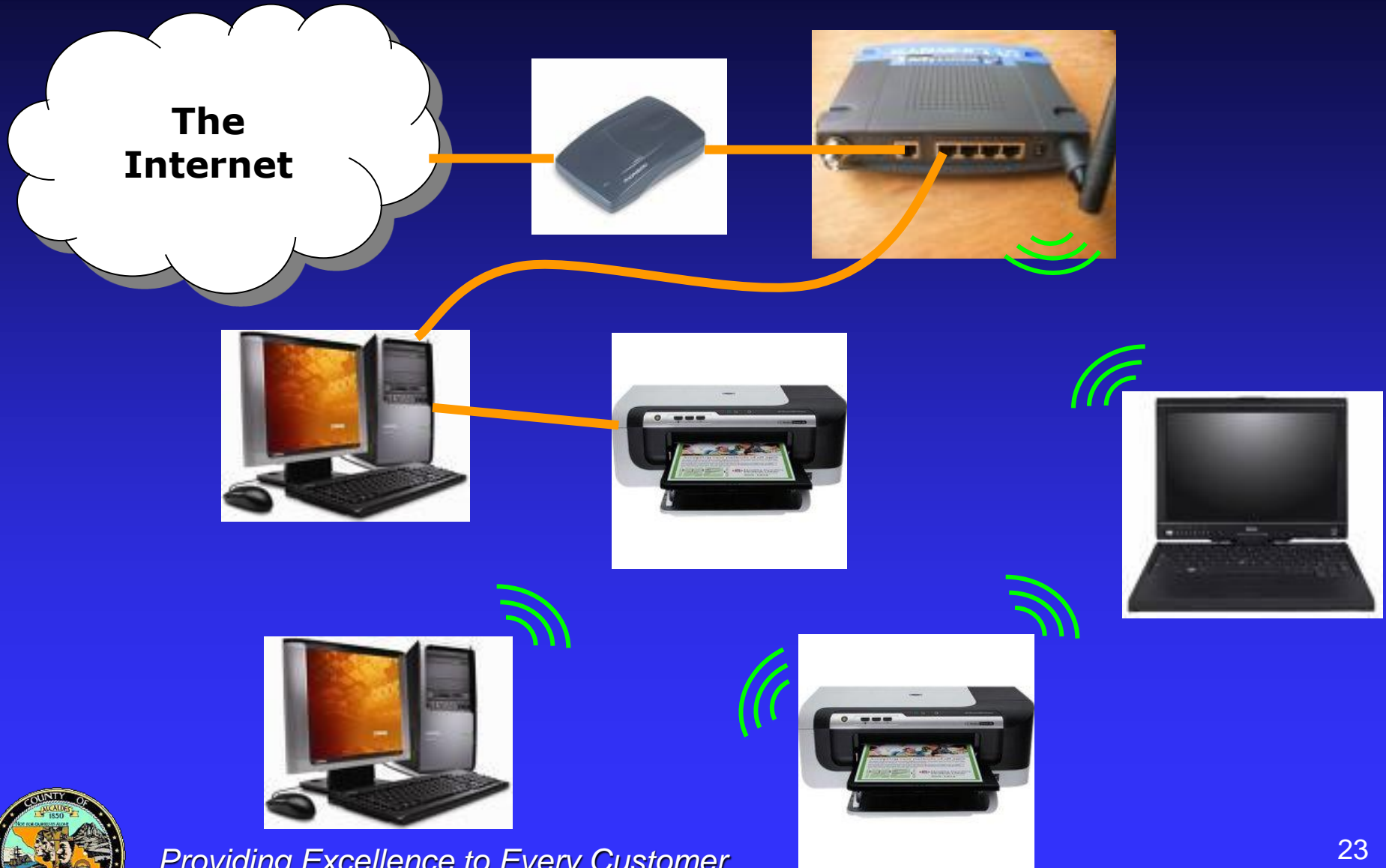
Inside The Home - Hybrid

- Modem

- WAP – Wireless Access Point

- Devices

The Internet

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Other Configurations

Other Configurations - Netflix

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Securing your Wireless Devices and your WAP / Router

- On your device:
  - Do not Auto-Connect to open WiFi networks
- At your WAP / Router
  - Change default Administrator passwords (and usernames)
  - Turn on (compatible) WPA / WEP encryption
  - Change the default SSID
  - Enable MAC address filtering
  - Disable SSID broadcast
  - Assign static IP addresses to devices
  - Enable firewalls on each computer and the router
  - Position the router or access point safely
  - Turn off the network during extended periods of non-use

WPA, WEP, SSID

- WiFi Protected Access (WPA / WPA2) is a security technology for wireless networks. WPA improves on the authentication and encryption features of WEP (Wired Equivalent Privacy)
  - All things considered, use WPA it is better
  - Remember your key or passphrase must match on devices – use something you will remember but that is not easily guessed, longer (with numbers) is better
- Service Set Identifier (SSID) is a name that identifies a particular 802.11 wireless LAN
  - Setup something that is unique and identifiable to you, but that doesn't say too much
    - SLOBytes99 is better than 520Dana

What's a Wardriver?

- Wardriving is the act of searching for WiFi wireless networks by a person in a moving vehicle, using a portable computing device

- Wardialing was made famous in the 1983, Matthew Broderick movie WarGames

Safe Surfing

- Use anti-virus and anti-spyware – lots of good free ones – www.cnet.com AVG free, malwarebytes, ccleaner
- Use different, strong passwords – 8 characters, numbers, special characters, upper & lower
- Pay by credit card use PayPal **PayPal**
  - Don't use a credit card linked to your bank account
  - Use a one-time card (ie. BofA Shop Safe)
- Don't email personal or financial information
- NEVER respond to pop-ups (alt-F4 or X close)

Wireless IS the future

- More hotspots – Hotels, RV parks, coffee shops, malls, bookstores, airports, marinas, parks
- Will change our lives in ways we may not see
    - Don't get me started on RFID chips
- After that, there is lots of speculation
    - Spectrum will be key
        - Regulated – Cellular vs Unregulated – WiFi
    - "There's an app for that…."
    - Faster connectivity for truly mobile devices
    - Universal access – jump from Verizon to T-Mobile to AT&T

One certainty: Our traditional views and expectations for privacy will continued to be challenged

What's next?

- Too much!!!
- NFC - Used for registration, mobile payment, identification, etc...
    - http://en.wikipedia.org/wiki/Near_Field_Communication
- Wireless transmission of television from your TV to a portable device in the house, like a Xoom or iPad so you can watch the television anywhere in the home inside of your wireless network
    - Flick a movie from my iPhone to my TV or to another room
- Location based services, tailored to YOUR interests
    - Using wireless hot spots in tourist attractions around the world to provide a captive portal for delivering detailed information about the attraction
    - Coupons, in real-time, at your supermarket
    - Notifications on events near you (or your phone)

Anything else?

- Communication with appliances inside of the home for reporting status, problems, or simply turning a light on and off
- 802.11p - Wireless Access in Vehicular Environments (WAVE) Wireless connectivity in cars to allow communication between them on the road, creating a large network, enabling
  - reporting real time traffic conditions based on vehicle speed
  - collision detection
  - finding an open parking meter or a large enough parking space for your Hummer
- 802.11u – Seamlessly transition from network to network
- Augmented Reality (AR) – very creepy, very cool, here today
  - http://www.youtube.com/watch?v=h2OfQdYrHRs
  - http://www.youtube.com/watch?v=rB5xUStsUs4

Where to get help….

- The County
    www.slocounty.ca.gov/IT.htm

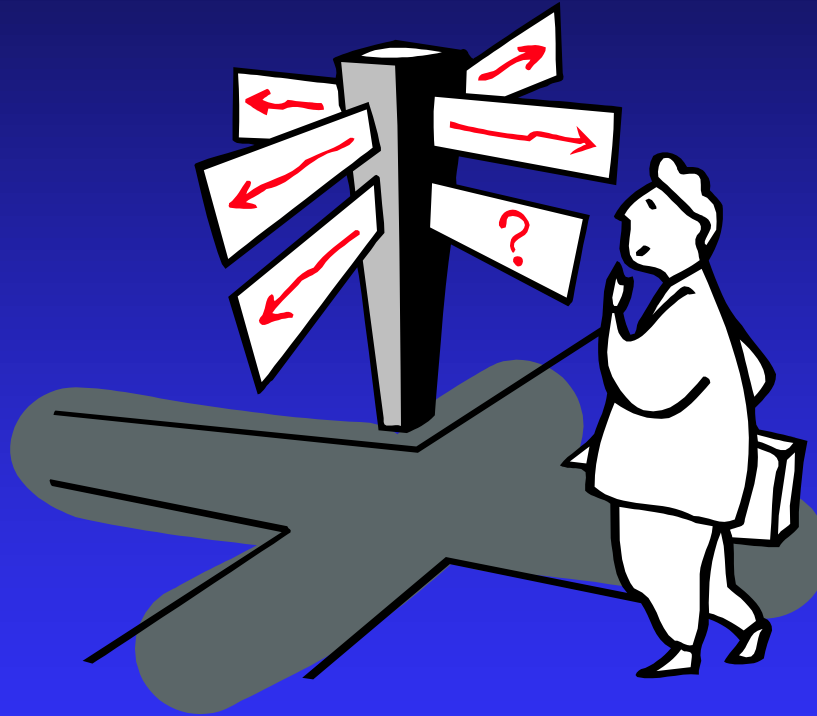- www.YouTube.com

- www.eHow.com

- Local companies:
  Best Buy's Geek Squad

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Questions & Answers

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